

In the Claims

1. (Currently Amended) A computer implemented replacement selection method for creating a single output data stream by merging data items from two or more input streams comprising:

assigning a status identifier to each input stream, said identifier reflecting a state of an input stream;

processing a data item from a first provided input stream;

comparing a status identifier of said data item from said a first input stream with a status identifier of a second data item from a node of a second provided input stream, wherein said first input stream is independent of said second input stream;

compiling said single output stream, which is a stream separate from said input streams, by placing one of said compared data items from said input streams into said single output stream through an identification process comprising:

identifying a second data item being processed from said a second input stream as being a duplicate of a previously processed data item from said a first input stream based on said comparison of said assigned status identifier identifiers;

assigning a duplicate status identifier to said second input stream responsive to said identifier duplicate data item; and

placing said duplicate data item from said second input stream into said output stream; and

switching from processing a next data item value from said first input stream to processing a next data item from said second input stream responsive to the step of placing said assigned duplicate item in said output stream status identifier, wherein the step of switching said input streams continues comparison of said status identifiers of said input streams and formation of said processing said value merges said input streams into a single output stream while avoiding

~~and avoids exhausting exclusive use of data items from~~ one of said input streams
when a quantity of said input streams is an odd number greater than one.

2. (Previously Presented) The method of claim 1, wherein the indication that the data item being processed is a duplicate data item is one value of an indicator having values the status identifier has a value corresponding to "empty", "duplicate", "merging" and "done".
3. (Previously Presented) The method of claim 2, wherein:
 - the status identifier is an integer variable;
 - the status identifier value corresponding to "empty" is the value zero;
 - the status identifier value corresponding to "duplicate" is the value one;
 - the status identifier value corresponding to "merging" is the value two; and
 - the status identifier value corresponding to "done" is the value three.
4. (Previously Presented) The method of claim 3, wherein the step of processing a value from said input stream containing said duplicate item is responsive to comparisons between the values of the integer status identifier values associated with data items being compared.
5. (Original) The method of claim 1, wherein the method is a replacement selection method using a loser- oriented selection tree.
6. (Currently Amended) A computer-readable data structure representing a selection tree for use in a computer-implemented replacement selection method of merging data items from two or more input stream, comprising:
 - for each node of the selection tree:
 - an identifier of one of the input streams, and
 - a reference to a data item being processed from that one of the input streams;
 - said data structure embodied in a computer readable medium being responsive to instructions for processing a data item from a first provided input stream, comprising:

instructions to compare a status identifier of said data item from said first input stream with a status identifier of a second data item identifiers from a node of a first input stream with a node of a second provided input stream, wherein said first input stream is independent of said second input stream,

instructions to compile a single output stream, separate from said input streams, by placing one of said data items associated with said compared status identifiers into said output stream,

instructions to resolve placement of a data item from one of said input streams into said output stream in response to said compare instructions identifying a duplicate data item in said input streams, comprising:

instructions for identifying said data item from said second input stream as a duplicate of said data item in said first input stream and for assigning a duplicate status identifier to said data item from said second input stream;

instructions for promoting said duplicate item from said second input stream to said output stream in place of said data item from said first input stream; and

instructions to switch processing of data items from said first input stream to processing of data items from said second input stream in response to said identified duplicate data item and in response to said identifiers of said second input stream representing a duplicate data item assigning said identifier of said second input stream as a duplicate identifier and processing a value from said second input to avoid exhausting distribute contribution of data items from said first input stream streams to said output stream when a quantity of said input streams is an odd number greater than one.

7. (Original) The data structure of claim 6, wherein the indication that the data item being processed is a duplicate is one value of an indicator having values corresponding to

"empty", "duplicate", "merging" and "done".

8. (Original) The data structure of claim 7, wherein:

the indicator is an integer variable;

the indicator value corresponding to "empty" is the value zero,

the indicator value corresponding to "duplicate" is the value one;

the indicator value corresponding to "merging" is the value two; and

the indicator value corresponding to "done" is the value three.

9. (Currently Amended) An article for use in a computer implemented replacement selection

method for merging data items from two or more input streams comprising:

a computer-readable signal-bearing medium;

means in the medium for assigning a status identifier to each input stream, said identifier reflecting a state of an input stream;

means in the medium for comparing a status identifier of a first input stream with a status identifier of a second input stream, wherein said first and second input streams are independent;

means in the medium for placing a data item associated with one of said compared status identifiers into a separate output stream, including means for resolving placement of a duplicate duplicate data in said output stream comprising:

means in the medium for identifying a data item being processed from ~~one of the second input stream streams~~ as being a duplicate of a previously processed data item from said first input stream and prior to placement of said data item from said first input stream into said output stream;

means in the medium for assigning a duplicate status identifier to said second input stream responsive to said identified duplicate data item; ~~and~~

means in the medium for placing said duplicate data item in said second input stream in said output stream;

means in the medium for processing a next data item value from said second input stream responsive to said assigned duplicate status identifier, wherein the step of

processing said next data item value merges said input streams into a said single output stream and avoids exhausting one of said input streams when a quantity of said input streams is an odd number greater than one.

10. (Original) The article of claim 9, wherein the indication that the data item being processed is a duplicate data item is a value of an indicator having values corresponding to "empty", "duplicate", "merging" and "done".
11. (Original) The article of claim 10, wherein the indicator is an integer variable;
the indicator value corresponding to "empty" is the value zero;
the indicator value corresponding to "duplicate" is the value one;
the indicator value corresponding to "merging" is the value two; and
the indicator value corresponding to "done" is the value three.
12. (Previously Presented) The article of claim 11, wherein the means for processing is responsive to comparisons between the values of the integer variable indicator values associated with data items being compared.
13. (Original) The article of claim 9, wherein the method is a replacement selection method using a loser- oriented selection tree.
14. (Original) The article of claim 9, wherein the medium is selected from the group consisting of a recordable data storage medium; and a modulated carrier signal.